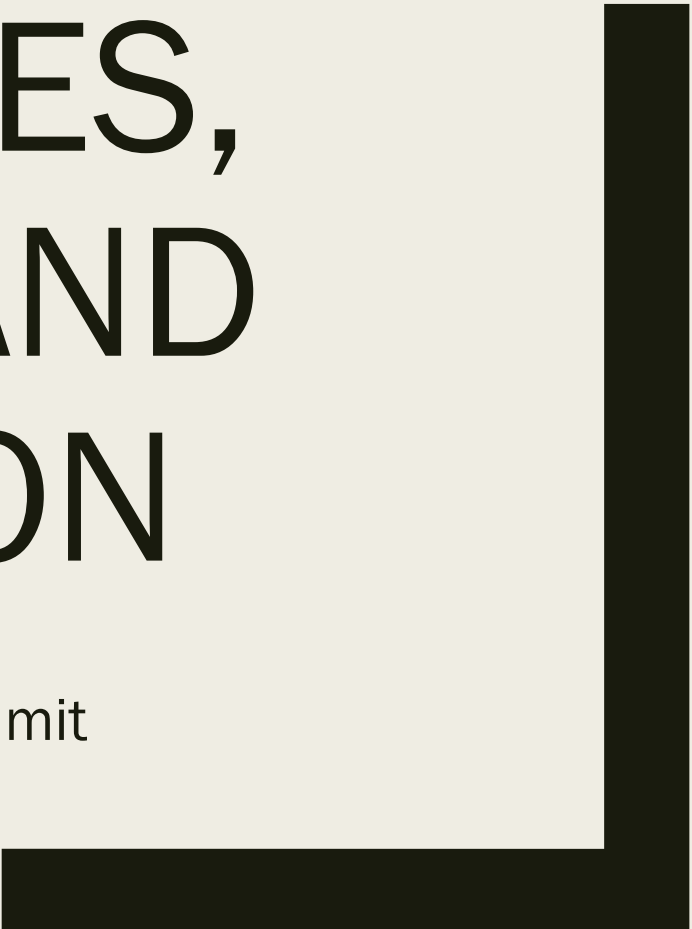




# MAKERSPACES, LIBRARIES, AND INFORMATION

PA Forward Information Literacy Summit  
July 19, 2017





Maker Workshop,  
University of SC

- A unique learning environment that encourages tinkering, play, and open-ended exploration for all
- Laura Fleming

# What is in a Name?

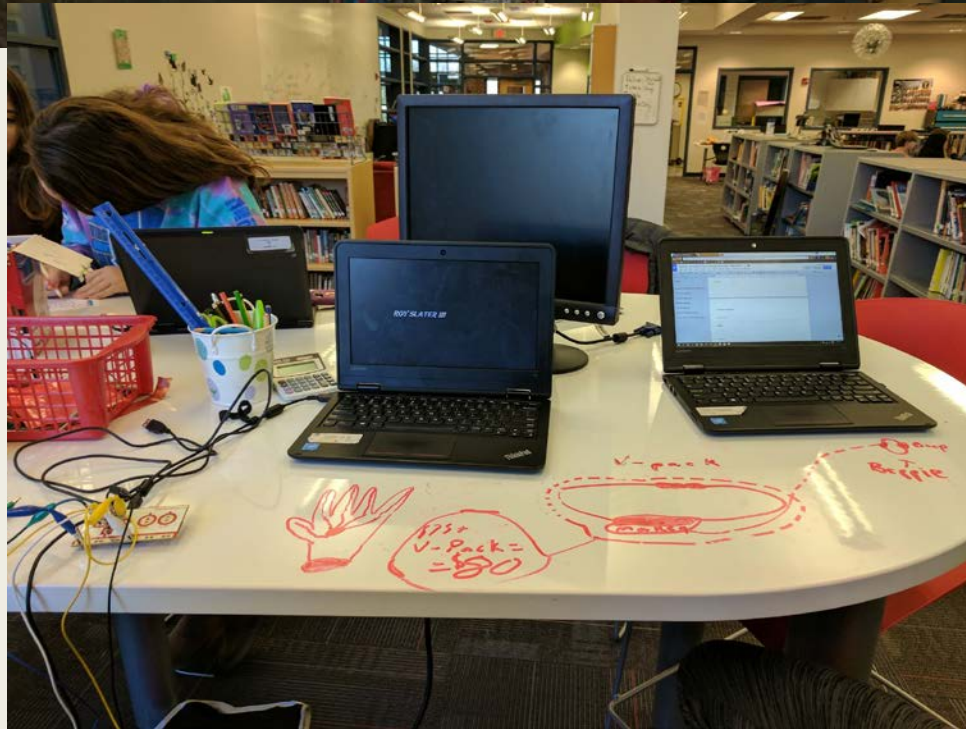


# Spaces

“Makerspaces and the collaborative design and making activities they support have generated interest in diverse educational realms.”

- Sheridan et. al. (2014). Learning in the Making: A Comparative Study of Three Makerspaces. *Harvard Educational Review*, 84(4), 505-531.





Images Courtesy of Ida Mae Craddock





Images courtesy of NC State Libraries







Images Courtesy of Teen  
Hype Center. Detroit



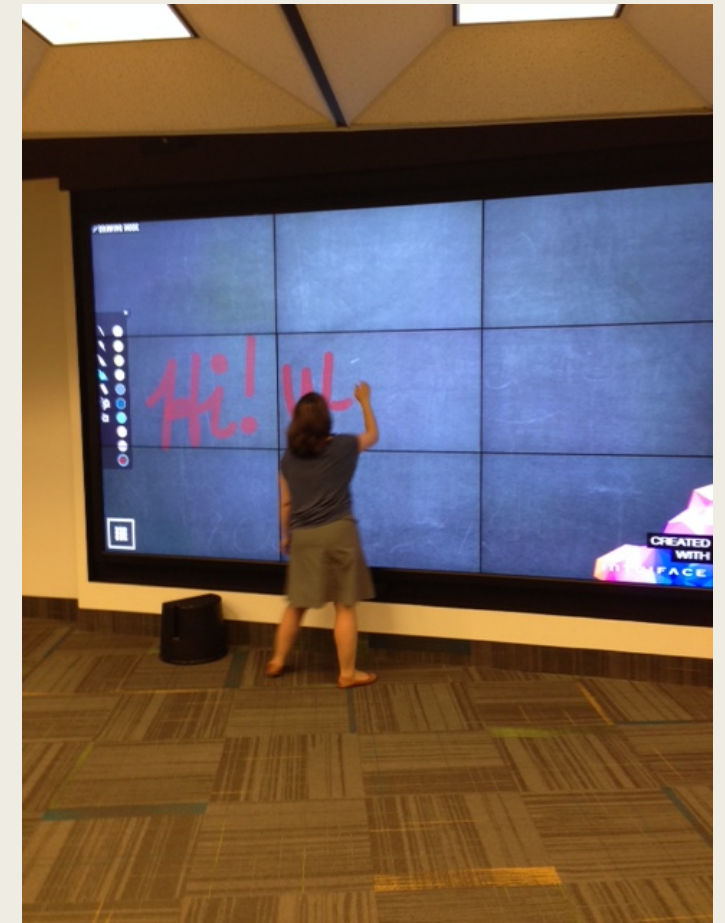
# Richland Public Library



Columbia, South Carolina, USA







Orlando  
Public, USA





# North Carolina State Library

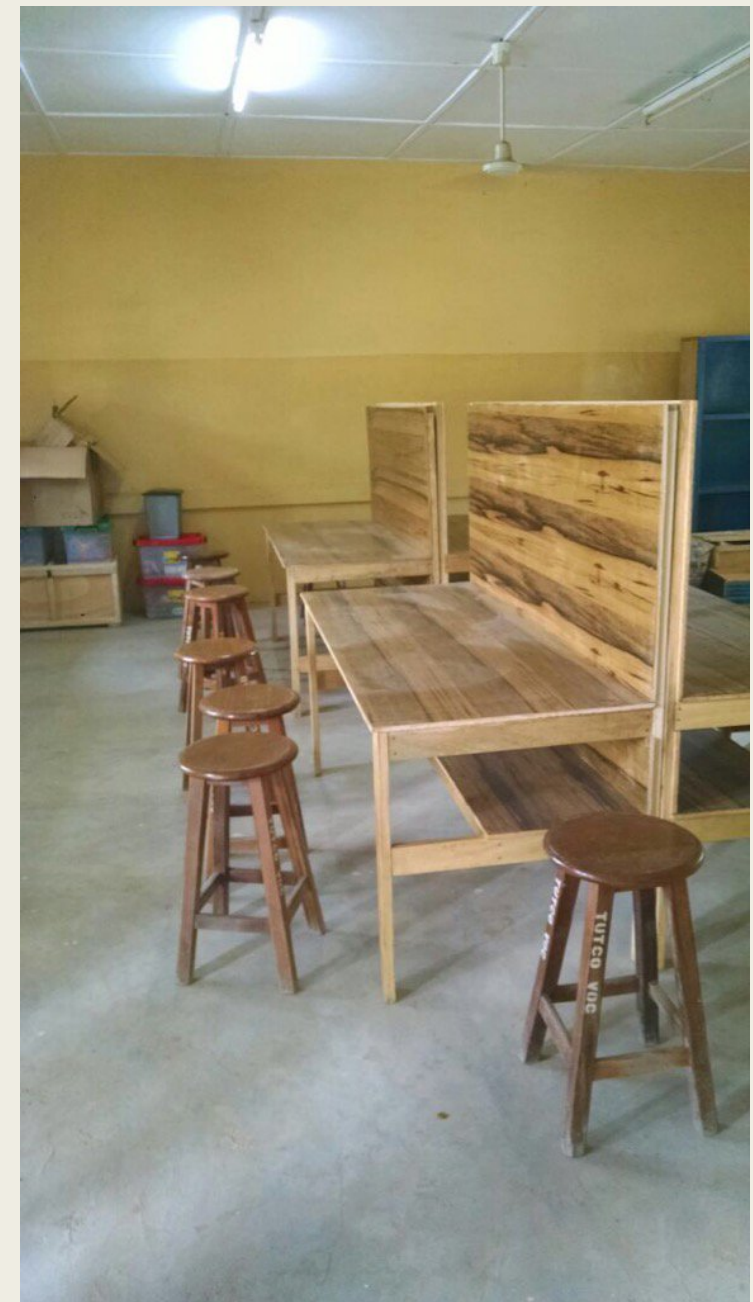


## Storytelling Makerspace (Special Thanks to Laura Fleming)





Images courtesy of  
EdCamp Ghana and Tumu  
College of Education  
Makerspace







# The Scrap Exchange, Durham, NC

(Special Thanks to Laura Fleming)

Reuse Arts  
District



PROGRAM	OPERATIONS	JOB CREATION	SPACE/INCOME
Thrift Store OPENING 2017	Resale of clothes books, household items, and furniture	5 full-time jobs 5 part-time jobs	15,000 sf \$80,000/mo
Artist Studios Artist and Maker Marketplace Very Special Arts	Studios, marketplace, exhibition space, special needs art program and therapy, and artist services	2 full-time jobs 4 part-time jobs plus mentorship program	13,000 sf \$5,000/mo
Maker Space	Equipment and tools for making, classes, membership, mentorship, product development and creation, plus youth design program	2 full-time jobs	8,000 sf \$5,000/mo
Architectural Salvage and Deconstruction	Collect, sell, and merchandise construction and demolition waste; upcycled furniture production and repair	6 full-time jobs 3 part-time jobs	15,000 sf \$100,000/mo
Recycle-A-Bicycle	Bike design, repair, mentorship, retail, and rental	1 full-time job 2 part-time jobs	4,000 sf \$2,000/mo
Multi-Tenant Shared Spaces	Shared resources for non-profits/entrepreneurs and artists, offices and conference room	Leased space	5,000 sf \$2,500/mo
Black Box Theatre	200-seat black box theatre	Leased space	3,000 sf \$1,500/mo
Music Production	Soundproof music studio and practice space	Leased space	2,000 sf \$500/mo
<b>TOTALS</b>	<b>Eight Programs</b>	<b>16 full-time jobs 14 part-time jobs</b>	<b>65,000 sf \$196,500/mo \$2,358,000/yr</b>

Maker Spaces can be  
anything your patrons and  
you want them to be!





# Mobile Making

“I liken a mobile makerspace to a food truck. A mobile makerspace can go to the patron instead of waiting for the patron to arrive. Food trucks, like mobile makerspaces, depend on demand and social media advertising.”

- Craddock, Ida Mae. (2015). Makers on the move: A mobile makerspace at a comprehensive high school. *Library Hi Tech*, 33(4), 497-504.



DH Makerbus







Image  
Courtesy of  
Frysklab,  
Leeuwarden,  
Netherlands



# Maker Fleet



Image Courtesy of Brad Gustafson, Greenwood Elementary School, Wayzata, MN





# Projects

“Libraries are particularly well suited to support the creators in their community with a built-in audience.”

- Williams, Beth & Folkman, Michelle. (2017). Librarians as makers. *Journal of Library Administration*, 57(1), 17-35.





Image Courtesy of  
Missoula Public  
Library and Sarah  
Schaffer



## Green Screens, Do Ink App, News/Video Programs

Image  
Courtesy of  
Leah Joly





# Green Screen Pizza Boxes





# Sand Art

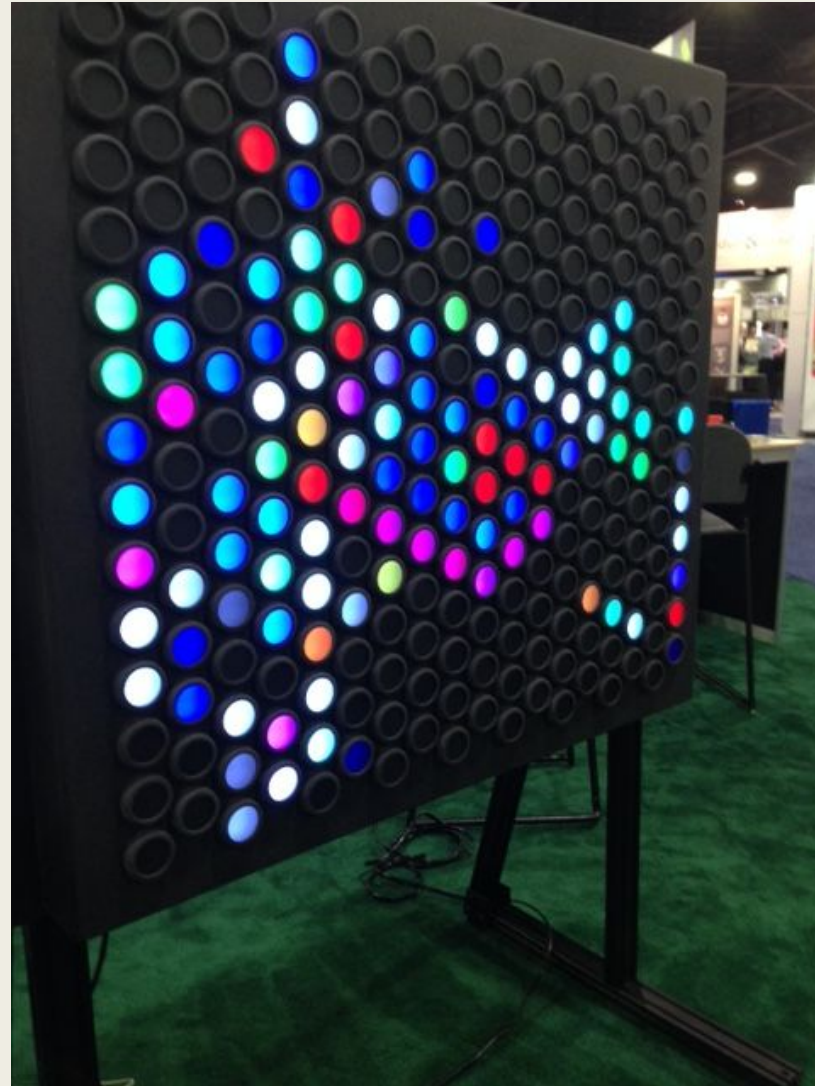






Stick  
Together

Lite Brite



Coloring





Image Courtesy of  
Ida Mae Craddock,  
Monticello High  
School



# Accessibility

“Accessible “making” at the library can enrich the lives of people who are differently abled in many ways, allowing them to create items to improve their world, have fun, and identify hobby and career possibilities.”

- Klipper, Barbara. (2014). Making makerspaces work for everyone: Lessons in accessibility. *Children and Libraries*, 12(3), 5-6.

# Creating maker experiences or making for

- Visually Impaired
- Hearing Impaired
- Mobility Impairments (Wheelchair, Walker, Cane, etc)
- Cognitive Impairments
- Autism
- Cerebral Palsy

(For a more detailed list please see [ADA.Gov](https://www.ada.gov/))



# Tactile Picture Books, University of Colorado Boulder



## Visual Maps



Photo Courtesy of Adam Rogers, Hill  
Library, NC State



# Hearing Impairment



Orchid - Downstairs bedroom by Addison Place at Boca Raton (2012)  
<https://www.flickr.com/photos/addisonplace/6696347287/>  
Attribution (<http://creativecommons.org/licenses/by/2.0/>)  
Photo Attribution by PhotosForClass.com

# Setting Up Your Makerspace

- Facebook, Yahoo, Google has visually impaired employees to aid in accessibility issues on their sites. In other words, ask the experts. Show a video of your layout, get feedback
- Have instructions in multiple formats (Written, demo, video, braille)
- Make space layout wheelchair/walker friendly
- Be very aware of music/noise for autism spectrum guests
- Have outputs in a variety of formats (visual, tactile, auditory, taste)
- Your makerspace is ready for any audience, it may just need a few tweaks to be universally designed, to be inclusive for all



# Training/Education

“Makerspace professional development should help educators/teacher librarians understand the educational rationale for having a makerspace, and provide curricular tie-ins to illustrate how making can integrate with classroom activities.”

- Oliver, Kevin M. (2016). Professional development considerations for makerspace leaders, part one: Addressing what and why. *TechTrends*, 60, 160-166.



# UNCG SELF Design Studio

## Google forms

### UNCG's SELF Design Studio - Inquiry Form

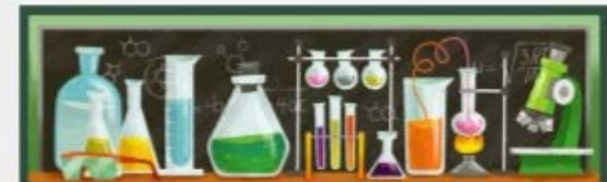
\* Required

First name \*

Last name \*

Email address \*

Question for the SELF Design Studio staff



*SELF Design Studio Maker Quests  
Sign Up*

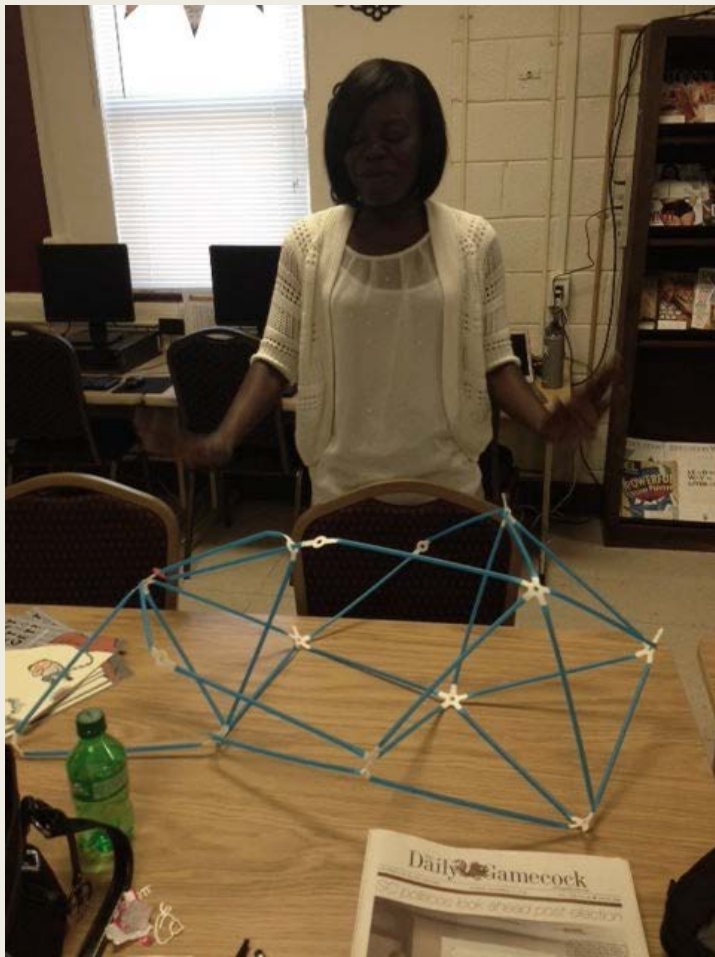
\* Required

Fall 2015 UNCG School of Education  
Educator Workshops

Location:  
University of North Carolina - Greensboro  
School of Education Building - Room 307



## Traveling Professional Development



# Information Literacy

“How can young people’s experiences as makers go beyond product-oriented activities focused on procedural “how to do it” learning, to include notions of reflection, critique, assessment, agency in relation to the technology that they make?”

- Bowler, Leanne, & Champagne, Ryan. (2016). Mindful makers: Question prompts to help guide young peoples’ critical technical practices in maker spaces in libraries, museums, and community-based organizations. *Library and Information Science Research*, 38, 117-124.



```
graph TD; Define[Define] --> Access[Access]; Access --> Evaluate[Evaluate]; Evaluate --> Apply[Apply]; Apply --> UseEthically[Use Ethically];
```

Define

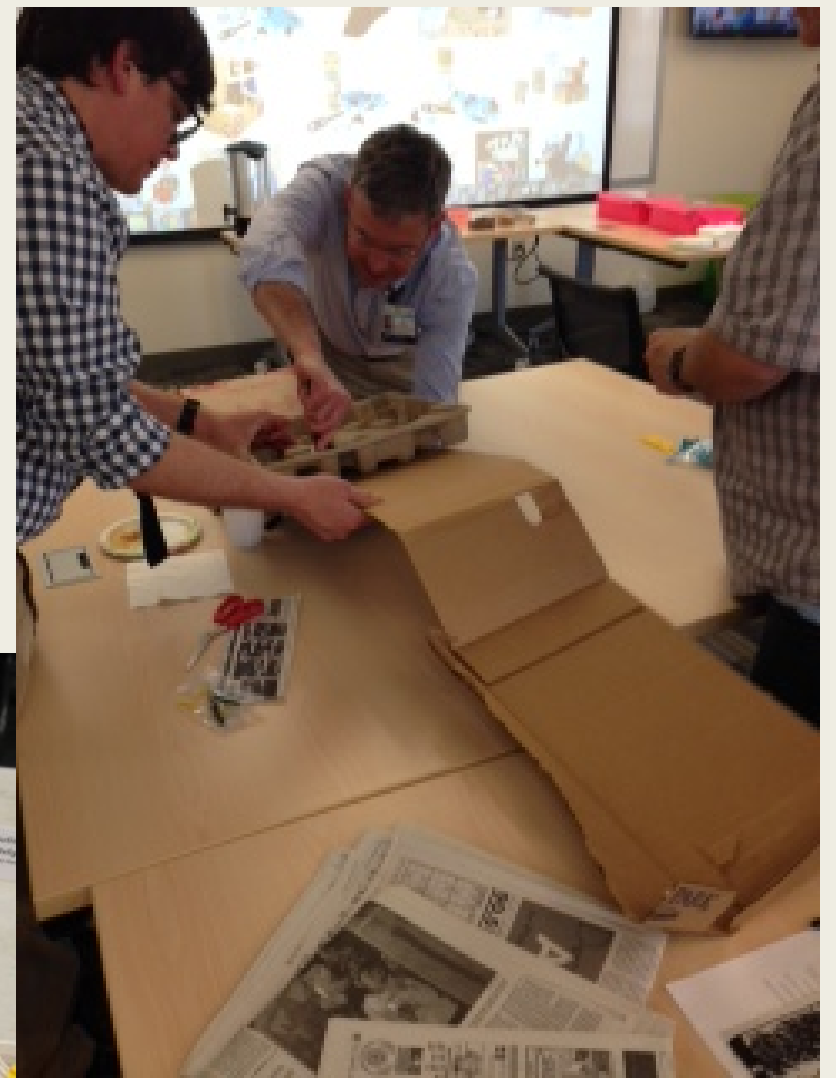
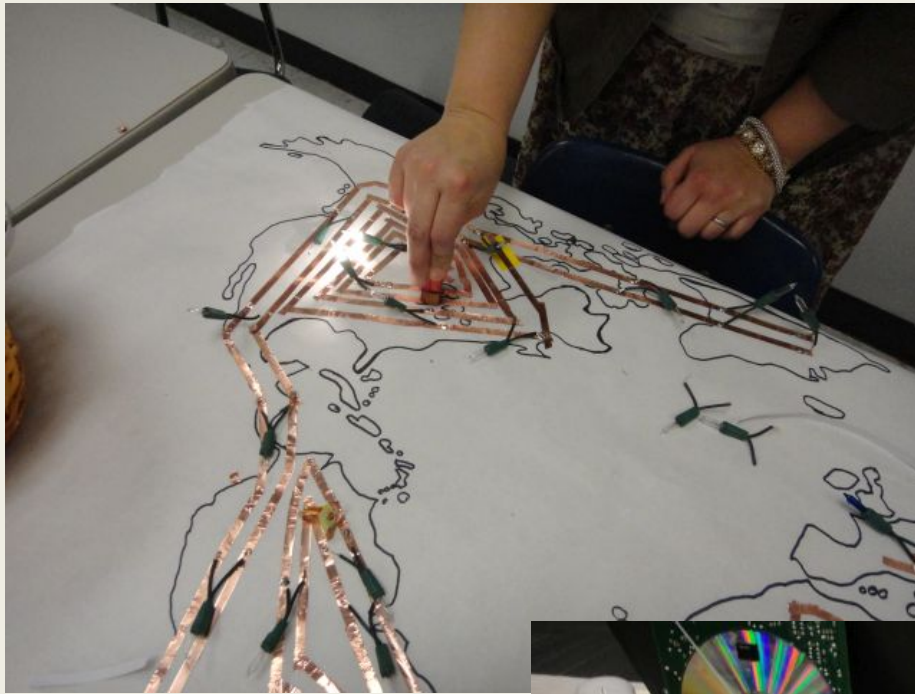
Access

Evaluate

Apply

Use Ethically

Define  
What is  
Needed





# Access The Material

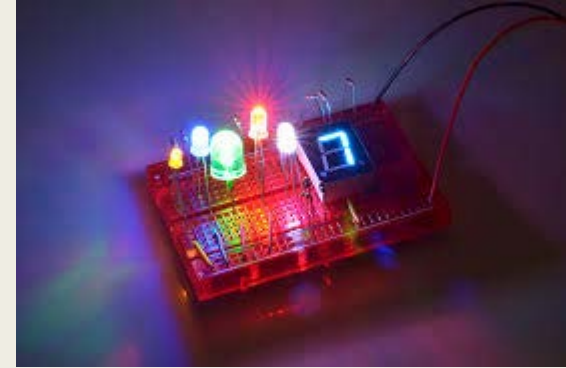
Duct Tape



Solder



Diodes



LEDs



Paint



Hole  
Punch



Cardboard



Imagination

Hot Glue





Evaluate  
the  
Information  
Given



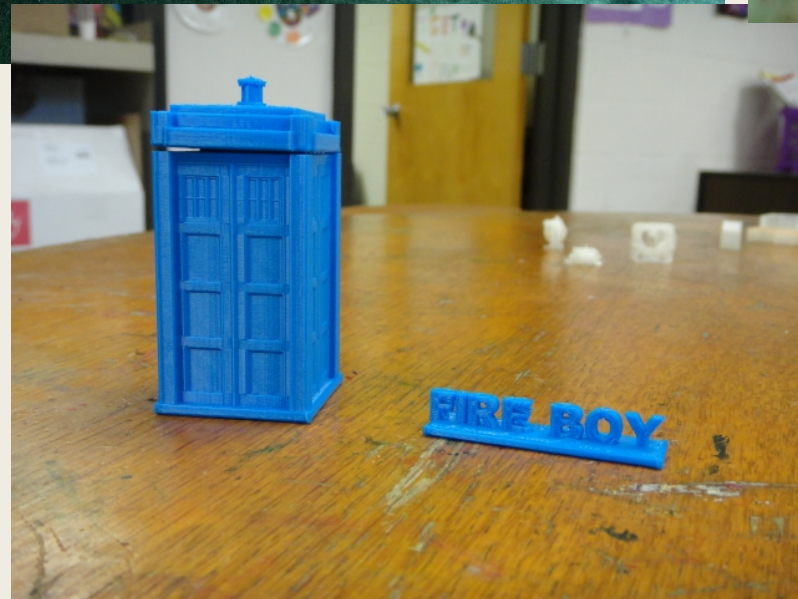
# Apply the Knowledge!

**NEVER BE AFRAID TO  
TRY SOMETHING NEW.  
REMEMBER AMATEURS  
BUILT THE ARK,  
PROFESSIONALS BUILT  
THE TITANIC -  
UNKNOWN**



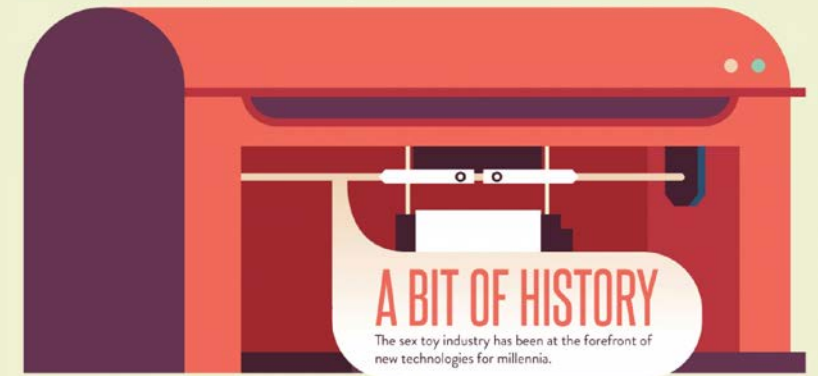
Made with ❤ by [recitethis.com](https://recitethis.com)

Use  
Ethically



## SEX TOYS & 3D PRINTING THE END OF AN INDUSTRY?

In the near future, 3D printing will allow us to create anything from guns to fashion accessories in the comfort of our homes. But what about sex toys? What sort of impact will commercial 3D printing have on one of the world's most-durable industries?



### A BIT OF HISTORY

The sex toy industry has been at the forefront of new technologies for millennia.



# How do we ethically run a maker learning space?

- Educate our patrons
- Practice by example
- Communicate
- Signage
- User agreements (especially public, many examples)

“unless young people are willing to face the unfamiliar they cannot be creative in any sense, for creativity always means the doing of the unfamiliar, the breaking of new ground. It is from this creative element, which we should be stimulating now, that all the new ideas of the future will come.”

Eleanor Roosevelt: Tomorrow is Now, 1963, Harper & Row



# Questions?



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@actinginthelib

www.techfifteen.com

<https://goo.gl/HG9MkX> (Or Slideshare:actinginthelib)

